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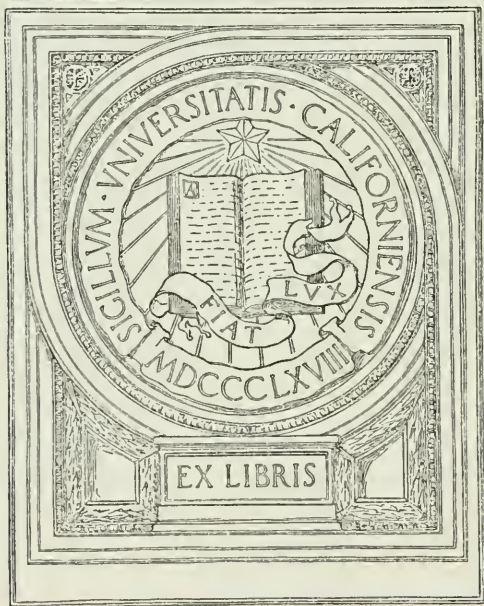
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ANALYSIS AND CLASSIFICATION OF PERFORMANCE IN VOCATIONAL RELATIONS

J. OSBORNE HOPWOOD

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Analysis and Classification of Performance in Vocational Relations

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BOSTON

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PREFACE

In considering occupations and the adaptations of persons to them, adherence to the idea that it is necessary to discover specific traits of character essential to each situation has not given satisfactory results because there is no real basis for analyzing character into traits and therefore no real basis for its classification. A particular kind of expression which may be called for in an occupation may be due to different character traits or combinations of traits, also, the same trait may give rise to different kinds of expression and therefore may apply to a number of situations. If we could identify character traits and attribute to them all of their different kinds of expression and formulate the kinds of expression due to particular combinations of traits, we would have a science of character analysis but no such science exists and attempts to apply knowledge of this kind have therefore been misleading.

In this prospectus I have taken the view that performance, and not the character traits of persons which may prompt it, is the subject of direct

concern in analyses of occupations and that discovery and conscious direction of the development of adaptations of persons for specific occupational performance involves consideration of expression with regard to the specific performance but does not necessarily require the identification of character traits concerned, performance being capable of analysis into its essential component acts and therefore capable of classification according to the kinds of acts which compose it.

This principle has many important extensions and applications and is verified by inspection of the true state of affairs in industrial life. In the Introduction and sections which follow, I have tried to set forth definite applications with essential procedure and supporting theory in order to make a guide book which may be of practical value. In addition to my own study and industrial experience, I have made use of various works to which I have referred in the text.

J. OSBORNE HOPWOOD.

Primos, Pa.,

February, 1922.

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UNIVERSITY OF
CALIFORNIA

ANALYSIS AND CLASSIFICATION OF
PERFORMANCE IN VOCATIONAL
RELATIONS

Analysis and Classification of Performance in Vocational Relations

I

INTRODUCTION

Subject and Object

This prospectus deals with performance in occupations, its analysis, characterization, graded classification, and the diagnosis of individual adaptation for it with respect to placement of workers or vocational guidance. Its object is to set forth systematically, essential principles and procedure which, heretofore, have not been correlated in concrete form.

Phases of Application

There are two phases of application of analysis and classification of performance in vocational relations. One is to the performance pertaining to occupations or positions without regard to the

persons in them, and the other is to the performance of persons with respect to the requirements of their positions or occupations. The former applies in connection with defining and grading service and establishing a basis for equitable salary and wage rates and the latter, in connection with placement, follow-up, and training, including judgment and direction of the self and others in vocational relations broadly.

In corporate work we are studying and developing organized effort for production and, as individuals, we are studying and developing ourselves for application in organized effort, so that, collectively and individually, we need to appreciate the real nature of performance and to characterize it and classify it upon a scientific basis.

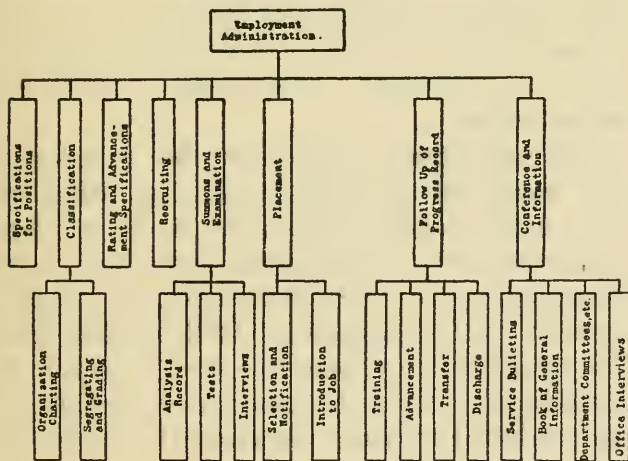
To Performance of Occupations or Positions

Systematic employment methods have been specifically called for in the awakening of industrial management to the realization that organization for rational administration in employment matters has a vital bearing upon efficiency in production. In these administrative functions Analysis and Classification of Performance has a ranking importance comparable to that of Analysis and

Classification of Accounts in the field of Accounting.

Development of intensive industry entails the growth of corporations and the application of science, or engineering, and this work is a phase of Industrial Engineering which has come into recognition in its turn as a field of applied science like other kinds of engineering work have done in the past.

The application of this prospectus to development of standard practice may be easily seen by reference to the following synopsis of essential functions in employment administration.



These functions are of primary importance in industrial relations because they are the elements for organized fair dealing and constitute means for methodical adjustment for stability and efficiency in operations. Fair dealing is a condition of environment which any person must have for efficient performance and it must be provided for like any other function in an organization, if it is to be performed proficiently. If, in his industrial relations, a man gets a fair and square deal all the way around, with all but not more than he earns, and realizes it through conferential relations with the management, his progress is then entirely a matter of his own productive efficiency in the opportunities which develop and he cannot help but know it and direct his creative effort accordingly for production.

The procedure suggested in this prospectus with regard to positions, establishes definition as to performance, classification as to production status, and uniformity and limitations as to nomenclature and titles throughout the departments of their organization. With specifications thus established, irregularities may be clarified, duplication of effort eliminated, and administration conducted to better advantage than without system of this kind.

Classification according to the *Production Status of Performance* is grading upon an equitable and logical basis and is an incentive to the realization by all of "fair dealing," when it is made known.

*To Performance of Persons—For Placement,
Follow-Up and Training*

These specifications provide a definite basis upon which to judge persons in hiring and placement by setting forth the specific performance of positions to which the incumbents must measure up, and the examiners can then follow a standard procedure. Principles and steps for this also are stated subsequently.

The points set forth as performance requirements in positions also serve as a basis in rating the efficiency and progress of the persons in the positions in keeping a periodic record for "follow-up" for adjustment, advancement, etc. Points in which persons are weak or deficient constitute subjects for training.

In diagnosis for placement, the only scientific basis is analysis of the performance required and the discovery in persons of the necessary adaptation for it, as this may be revealed by observable

physical structure and general performance. This cannot be correctly called character analysis. Character analysis requires discovery in individuals of specific traits* of all kinds and their hereditary and environmental determiners which, if they are capable of structural determination, are for the most part unknown. We can, however, analyse the performance which persons show to us or give evidence of having executed.

We can *describe* character *as far as we are able to observe it*, but there is no basis for its real or complete analysis and classification. It is true that mental processes and physical performance are inseparably integrated in an organism and every animal can recognize attitudes and states of mind in others through physical expressions which reflect them, and experience in recognition of these helps us to judge others. Experience of this kind has been universal for so long that it is intuitive with animals and men to feign and pose in action, and to lead and follow leadership. But the mystery of character has led to speculation for ages and to many false claims as to its revelations, for example, in widely advertised employment liter-

*A trait is a peculiarity of organization with both structural and functional aspects.

ature which is sold to industrial managers, there are such "quack" statements as the following: "We see that for every physical difference between men there is a corresponding mental difference, because both the physical differences and the mental differences are results of the same heredity and environment."

Science has not shown that there is generally a causal connection between the individual *observable* physical differences and the mental differences in men, and inclines to deny its existence as a general principle, because these differences are not usually the results of the same hereditary or environmental determiners. In any ultimate analysis, mental differences are due to *minute* organic physical differences involving the nerve tissue as well as other tissues, their health and disease, balance of building up and breaking down, and their environmental stimuli (physical surroundings; blood supply, content, etc.), which are subject to very limited observation only, and subject to change. Some of these characters are hereditary and some are of environmental origin, and their nature is such as to make their individual determination, at least, exceedingly difficult. All that we can observe ordinarily are some of the

gross physical differences among individuals, which usually have nothing to do with mental differences and differences in performance.

The above quotation states the assumption upon which the false systems of Phrenology and Physiognomy were founded, which have misled men for centuries. Fortunately, to-day, we can be disillusioned by the revelations of modern science and ought not to be misled by "quackery" to subject either persons or production to failures on account of judgments based upon such superficial characters as skin texture and mere form of hands or other physical features; 'which would fail to discover an Abraham Lincoln.'

(Refer to "Heredity and Environment," E. G. Conklin, Princeton University Press, and "Vocational Psychology," Hollingworth, Appletons).

JUDGMENT AND DIRECTION OF THE SELF AND OTHERS in vocational relations broadly, calls for examination of the individual's self with regard to the items in a comprehensive list, such as the "Check List," following, as is necessary in examining the performance of a position to make up specifications, in order to appraise adaptations for performance singly and establish specific features for a general characterization. With this appre-

ciation of how one is endowed to meet the requirements of environment by the faculties which he has inherited or acquired, he can be directed intelligently to appropriate kinds of work, if the work available for selection is also examined with regard to the same items which were taken in the personal examination, and comparisons are made. Moreover, development may be intelligently directed by giving attention to training relevant to adaptations and requirements.

We profit as long as we practice the activities which intelligent realization of the relation between our faculties and our environment reveals to us as essential to progress. In this, rational direction necessitates a plan for co-ordination of effort towards definite aims and such a plan for individual guidance may be formulated with the aid of this prospectus.

In general criticism of persons in their occupations it is common to discuss such general qualities as Executive Ability, Leadership, Personality, Intelligence, etc., without looking into the specific points in performance called for in connection with each of them and judgments are often vague and poor on that account. They are usually regarded as more or less indefinable requisites to

be estimated in the lump sum without thought of analysis. If, however, we consider each quality from the standpoint of its required performance, we can determine with considerable clearness, the items which are essential, as follows:—

Executive Ability is ability to perform executive service which consists of:

1. Organization—analyzing and classifying the functions in a division of labor and constructing and integrating the essential positions for the performance of the functions.

2. Judgment of Others—guaging correctly the ability of others for placement in the scheme of organization.

3. Decisions—fair, definite, prompt and logical, taking fair chances and holding with moral courage of convictions and self-reliance, regardless of criticism.

4. Association—with tact, poise, and spontaneous expression of sincerity, confidence, and ability to carry out a project sufficient to inspire the respect, trust, and confidence of others and their subordination to leadership.

5. Instruction—guaging correctly its effect and adapting it accordingly.

6. General Functions of Management, viz.—

Constructive imagination with formulation and development of consequent courses of action, even against environmental and instinctive dictates;

Accurate observation, including original analyses and syntheses on the basis of fundamental likenesses and differences;

Establishing standards;

Resourceful application of course of action.

Analysis of executive service in this manner will reveal essentials for consideration which would otherwise be lost sight of and probably cause serious mistakes in judgment. It is not uncommon to find persons in executive positions who are true bosses and little else, and others who attend to detailed routine procedure to the exclusion of larger problems because they cannot organize, and still others who are strikingly deficient in other features of the requirements.

Leadership essentially involves association with poise and the physical expression of self reliance and sincerity to command the respect, confidence and co-operation of others, in addition to—

Decisions, fair, definite, prompt and logical, taking fair chances and holding with moral courage and self reliance;

Accurate observation including —

Judgment of qualities by comparison with established standards and

Analyses and classifications by established procedure;

Resourceful application of courses of action.

This performance may not include more than supervision of routine standard practice, that is, leadership does not essentially involve a high order of constructive imagination or other functions of management which are essential in executive service; it may be concerned only with established procedure. Its most essential features are in expression for effect upon others.

Because of lack of definition and due consideration to analysis, leadership is often mistaken for executive ability and inefficiency is the result. An executive is a leader but a leader is not necessarily an executive. Leadership is essentially a spectacular kind of performance and therefore frequently suggestive of more than it really is, so that, without means for analysis and examination for essentials, it may be easily mistaken for executive ability.

Personality is the combination of qualities peculiar to a person. We judge its character by its expression. But when asked to judge it, what

are we to judge? No two persons would have very similar ideas of how to appraise it without specifications for analysis of its performance. If a situation requires a certain type of personality there must be certain features of performance in the requirements which can be specified, and, in order to judge intelligently as to the fitness of a person for the situation, we must determine the nature of these features or items and consider them separately. For example, in salesmanship certain items stand out more prominently than others, namely—

Judging human temperament,

Intuitive action to command and sustain favorable attention,

Resourceful treatment to sustain interest.

These things, of course, involve spontaneous expressions of confidence and sincerity of a kind appropriate to circumstances, and other items essential in a situation should be considered.

Intelligence is capacity for accomplishment through powers of observation, memory, decision, skill, reasoning, and constructive imagination. It is manifest in different degrees among individuals by the grades of work in which they are able to perform. Many individuals can acquire a high

degree of skill and apply themselves efficiently when their performance is determined by direction and long experience but cannot step up any higher into original analysis and the establishment of new standards and courses of action because they lack vision or constructive imagination. Others are capable only of acquiring a low degree of skill in established standard practice.

In judging intelligence, therefore, we must consider the nature of the performance expected by careful analysis and weigh a person's capabilities according to evidence given of performance of the same grade, though not necessarily consisting of the same acts.

With due consideration of these points it will be obvious that "Analysis and Classification of Performance in Vocational Relations" is a subject of vital importance in industrial life.

II

THE NATURE OF PERFORMANCE

Occupational performance may be analyzed, defined, and graded, if we will recognize fundamental scientific principles, and the procedure may at the same time be simple and practical. In this it is of first importance to appreciate the nature of performance in general and its relation to thought. The two are integrated and the grade attained in performance is determined by the grade of thought which is integrated with it. Therefore, in tracing the progressive stages of thought we can recognize corresponding degrees of simplicity or complexity in performance and establish a basis for its analysis and classification.

Progressive Stages of Thought

Thought, like all other processes in nature, is progressive from early stages, in which it has simple characteristics, to more advanced stages in which it is more complex, involving organization (differentiation of the whole into integrated divisions and sub-divisions). Its stages require corre-

sponding degrees of attention to the objects of impression. Impressions are accordingly, at first, vague and general with regard to their objects as a whole in associated relations. With more attention, the impressions become more exact and include perception of numbers, likeness and differentiation of parts, and their integration, comprising analyses, syntheses, and organization of ideas. These ideas, or mental pictures, are then available for recall by suggestion in recurring experiences and enable comparisons and judgments of likenesses and differences between new and former observations. Thinking may then advance into reasoning by the derivation of conceptions from combinations of premises.

Attention is application of the consciousness to objects of impression directly or by the recall of their impressions, and the extension of these impressions into mental pictures or ideas of other proportions than real experiences portray, constitutes imagination, which is constructive when it is rational.

While the processes which constitute thought are at any moment numerous, complex, and inseparable, we can summarize its progressive stages to be about as follows, although there are

no sharp lines of demarkation between them because they grade into each other:—

I. Observation—

Perception of objects of impression—

- (1) as a whole in associated relations and
- (2) as to parts, their number, likeness, differentiation, and integration—comprising analyses, syntheses, and organization of ideas.

II. Reasoning—

Conception of facts by conclusion from established premises—

- (1) Inductive—conception of general principles from observed specific relations.
- (2) Deductive—conception of specific relations from previously conceived general principles.

III. Constructive Imagination—

Extension of past experiences into conceptions of new combinations or situations of feasible existence.

Capacity for the progress of thought through these stages of development and for performance to which it is essential, which is capacity for volitional accomplishment, is intelligence and this accords with the complexity of an animal's general organization.

Performance

Performance consists of correlated acts ranging from the simplest "Reflexes" to "Rational Acts." Reflexes are automatic or subconscious responses to stimuli, such as blinking, breathing, walking, feeding, talking, etc. These acts are instinctive when they are induced by inherited traits instead of by traits acquired through learning by experiences. They are subconscious responses to feelings or impulses and include such acts as the familiar breeding habits of birds and other animals, struggles for self preservation, etc. Then there are "Intelligent" acts, their performance consisting in the conscious recognition of recurring experiences and the selection and repetition of relevant acts which were previously dictated by contact with environment, such as the behavior of a dog as he learns to open a gate. He knows that it opens because he has

seen it open. Otherwise he would not know its difference from the other parts of the fence. He paws until he strikes the latch in the right way to open the gate, and afterwards he repeats the act from memory of past experiences. This is learning by experience and many of our own acts are of like character to such acts of lower animals. At the upper end of the scale there are "Rational" acts. These acts include definite reasoning from premises and comprise the most complex kinds of performance, such as constructive planning and execution of new courses of action involving the imagination and are peculiar to man. They are Intelligent acts developed to greater complexity, and performance on the whole is more or less intelligent according to the complexity or simplicity of the acts involved.

Among the lower animals it is doubtful if Rational performance reaches any degree of development but Intelligent performance and Reflexive performance are intermingled, the latter becoming more and more pronounced as we descend the scale of animal forms from the mammals to the lower types like fishes and invertebrates.

The mammals include man and the highest types of lower animals such as the monkey, cat,

dog, seal, horse, etc. They exhibit the highest faculties for learning of all animals, and, of course, man supercedes the other mammals by virtue of his reasoning power and constructive imagination.

The birds exhibit interesting instinctive habits of nest building, migration, etc. and much less ability to learn than the mammals.

The reptiles are more stupid than the birds, the frogs and toads more so than the reptiles, and the fishes show the lowest degree of ability to acquire new habits by learning of all vertebrate animals.

The invertebrates include the insects, crabs, mollusks, worms, and the simplest animals whose acts are all principally of the character of reflexes. They smell their food and move toward it, see lights and dash toward them, and perform many other acts of a simple impulsive nature.

In the training of animals, the mammals, therefore, show the highest capabilities for skillful feats.

In the DEVELOPMENT of an animal, its thought and performance progress from stages with simple characteristics in the infant to stages with more complex characteristics in the adult according to the degree of development reached by the

adult, man showing the greatest amount of development and the simplest animals, the least.

Thus, in either way that we consider it, from the standpoint of the comparison of animal forms, or from the standpoint of the development of the single animal, intelligence accords with degree of organization, as is true of capacity for accomplishment generally.

THE DEGREE OR STATUS OF INTELLIGENCE of a living being is therefore shown by the position on the scale of acts (ranging from simple reflexes to rational acts) at which we can place the acts which he is capable of performing and this principle applies if we take the human race alone and consider the types of intelligence observed. Some minds are not able to think and reason to a high degree but act much the same as lower animals do, obeying their instinctive impulses and acting as their environment has required them to act, that is, their performance is the result of their instinctive impulses plus the experiences gained by knocking about in their environment. Others can imagine new situations and plan new courses of action which they have never performed before. In all normal persons however, we find reflexive, intelligent, and rational acts intermingled in their

behavior and the rating of one's intelligence is therefore a question of relative values entirely.

New acts require close attention but repetition tends to make their performance standard and more and more mechanical and spontaneous until they may be performed with little or no conscious effort more perfectly than by the application of conscious effort. For example, 'we cannot walk as well, or talk as well, or drive a car as well when we apply conscious effort to every move as when we allow our movements to flow freely and unconsciously.' In this manner, higher acts become reflexive and we become expert by experience because the physical organization has become extended or specialized for this efficiency. We are adaptable through this correlation of acts and the physical adjustment essential to it, otherwise we could not survive in the struggle with the changing elements of our environment.

Reflexes become so deeply seated that they characterize us in a large measure. Many of them (instinctive) are inherent and vital to our existence. They result from intuitive feelings which are often the most powerful motives of action, stronger than rational decisions and, accordingly, in our daily lives, most of the things that we do are

prompted by feelings. We enjoy acting in response to our feelings and often have to make strong effort for self-control in order to use reason. This is true with even the highest types of persons and requires us to be tactful in our associations. Therefore, if we are to understand human nature we must realize that it is animal nature and obeys biologic laws.

III

ORGANIZATION IN PERFORMANCE

In all relations in which we are concerned with efficiency in action, we are subject to the natural laws of organization. That is to say—efficiency involves organization, which is differentiation of a whole into parts with special functions in a division of labor, and integration of these parts to function as a whole. This is standardization, allocation and co-ordination of procedure and the structural units essential to it, restricting the individual freedom of units for the sake of intensive action and its compensations. Organization therefore, is specialization for efficiency and efficiency in any one or all functions is high or low according to the degree of specialization attained by the organization for their performance. The functions which constitute life processes are the same in a clam as in the human organism but the degree of specialization differs greatly. Likewise, with corporate organizations, great differences in degree of specialization exist among them and intensive

industry can develop only as organization becomes more and more complex.

Transformations in energy can take place only through corresponding changes in matter and procedure of all kinds depends upon correlated structure. Structure and function are therefore inseparable; neither precedes the other in organization. They develop simultaneously and in any consideration they are merely two aspects of the one thing—Organization. We cannot, therefore, have a function highly developed in any organization unless we have also the physical structure developed accordingly and we must recognize this principle when we work out efficiency problems. The engineers may work out efficiency methods and procedure but it is not until the physical organization is adjusted that new procedure becomes actual.

Performance, when completely standardized, is mechanical and, as to the maintenance of routine standard performance under fixed conditions, an organization is a machine but mechanical performance is the limit of the capacity of machines in performance. They cannot undertake new procedure, even to the extent of slight adaptations to new conditions, because they lack power of perception, discrimination, recall, and of the selection

of courses of action. There are thus two phases of performance essential to organization in its higher types, one is mechanical performance and the other is intelligent performance. Both phases are characteristic of organisms and therefore, corporate groups of organisms, but the first only is characteristic of machines. Organization in its higher types therefore involves intelligent direction over specialized operating units, in so far as their activities must be varied and co-ordinated, and means for automatic appraisal of the necessity for variation of procedure. This relationship between controlling authority and specialized units with respect to any or all functions is called "centralization." Specific procedure, when completely standardized, is performed with least expenditure of energy and most perfectly when left to its respective operating units without reference to central authority and this delegation of responsibility by controlling authority to specialized units is called "decentralization." Increasing complexity, as organization develops, is shown by the appearance of intermediate directorates of various degrees of authority between the most highly specialized operating units and the central directorate, and differentiation along intelligence levels.

Decision by controlling authority is therefore essential in organization and this is autocratic but, on the other hand, efficiency in production requires that every unit of structure, however small, be so integrated in the whole that its expression will be perceived by controlling authority and administration effected accordingly for rational procedure which, in a corporate organization, includes justice and equality in dealing for all members, uniform standards, restriction of arbitrary practices and personal favoritism, etc. Thus, according to natural law, there is a balance between autocratic direction and democratic recognition of all rational dictates of structural units in organization, which is essential to maximum production, no matter what the form of organization may be. If autocratic direction does not heed the expression of the operating units, production is retarded and, if the operating units obstruct controlling authority, production is retarded and the survival of an organization depends upon the maintenance of this balance in the struggle with the elements of its environment.

In industry then, channels for honest expression by individual workers and its perception by controlling authority are vital to organization.

When the members of departments or working units of an industrial organization meet together frequently under conditions of fair dealing and sincere confederal relations with administrative officers who seriously give intelligible explanations, demonstrations, and progress reports and inspire free expression of individual views, conceptions of differences of interests between managers and line workers do not prevail. Incentives to production under such relations are vastly greater than under an autocratic régime which fosters only master and servant relations stifling cooperation for maximum production and its just distribution because conflicting interests between managers and line workers obviously exist.

Organization in performance is universal in nature. It is the basis of all development. It is real, not artificial, and our performance must conform to it as the scheme of nature for progressive action. In an industrial organization we are a group of persons occupying differentiated and integrated positions in a division of labor and we are banded together as a whole to carry out our project. Persons in positions correlated for special sets of functions constitute units of the organization and, as aggregated for more general functions, constitute larger parts.

When a single unit of the organization has many functions it is generalized and the functions, though they exist, are performed with much less precision, harmony, and efficiency than when there is a more complete division of labor effected through differentiation of the structure into more specific parts, and integration of the parts. In spite of all individual efforts, we cannot perform functions with highest efficiency unless we are organized to perform them, that is, we must develop systems for procedure and fix co-ordinated responsibilities in positions with clear definition as to performance and status.

The development of an organization in this way subscribes to the principle in industry that workers occupy specific positions in a division of labor *utilizing and developing capital*. This conception differs vitally from the traditional view of labor as a commodity to be bought by the owners or representatives of capital and *utilized upon their capital*. The one view gives the worker membership for efficiency in the INDUSTRIAL INSTITUTION and is democratic. The other view disregards the organization of workers as living individuals and gives them no position as such in industry; it admits only of bargaining for their

labor at market prices, or for what they are forced by circumstances to take. This is arbitrary, autocratic, and "short sighted" and, with development in industrial organization, it cannot hold because it is against the principles of organization, which are primarily biological and not mechanical.

The traditional view that labor is a commodity parallels another instance in our economic life of an arbitrary view point once taken and later abandoned. The theory of John Stuart Mill that those who worked directly upon commodities were producers of wealth and that others, such as accountants, sales people, etc., who performed other services, were non-producers of it, made a purely superficial distinction. Material wealth has value only as it can render service and therefore, in the end, all labor is for production of service and it is now recognized that every one who performs a useful service, whether a producer of material wealth or not, is a producer.

Fundamentally, all persons in industry, from president to laborer, are workers, utilizing and developing capital, and each worker occupies a specific position in an organization for the division of labor, which must be defined and integrated as a part of the organization as a whole for efficiency

OFFICE
(B)

CLERICAL SERVICE UNIT	
Classical and stenographic service	
(ii)	
1	CLERK
1	CLERK
1	CLERK
1	CLERK
1	CLERK
1	CLERK
1	CLERK
1	CLERK
1	CLERK

HULL BRANCH	
Hull construction division (iii)	
1	BRANCH HEAD
2	SENIOR ENGINEER (HULL)
2	SENIOR ENGINEER (HULL)
1	CLERK

REQUISITION BRANCH	
Preparation and issue of ship material and equipment requisitions	
1	BRANCH HEAD
1	SENIOR ENGINEER (HULL)
1	SENIOR ENGINEER (HULL)
1	CLERK
1	CLERK
1	CLERK
1	CLERK
1	CLERK
1	CLERK

FIGURE 1. SPECIMEN CHART.

(EMERGENCY FLEET CORPORATION)

Letter Symbols for Standard Specifications for Position

LEGEND

STAFF SERVICE
LINE SERVICE

in production to the extent at least to warrant providing for the incumbent, the working conditions, the means for conference with management, and the financial returns which are necessary to meet the essential demands of his living relations to environment *on* and *off* the "job." Therefore, as we develop special organization for *standardizing operations* and *fixing responsibilities*, including *proper placement*, *follow-up*, *conference*, and *adjustment of workers*, we develop efficiency in production and reduction of its unit cost.

ORGANIZATION CHARTING is a means of graphically representing the structure, the functions, and the positions of a corporate organization and indicating the lines of authority and responsibility in order that the scheme of organization may be visualized. This is of importance in analyzing, planning, defining, standardizing, and for instruction as to status of positions and the character of the organization.

An organization chart must figure the differentiation and integration in the organization. Structure is the visible aspect of the organization by which this is shown and therefore can be drawn. The identity of parts and their functions may then be shown by labeling (See Fig. 1). A chart set-

ting forth functions alone may be useful in functional analyses (see page 13) but it does not figure differentiation and integration in organization and is therefore not an organization chart in a complete sense.

Procedure in Organization Charting

(See Fig. 1)

1. A clear distinction should be made between structure and function.

2. Units of structure should be drawn to represent persons in positions or groups of positions with distinct functions as a whole, but co-ordinated with other units (one person may, under unusual circumstances, occupy more than one position).

3. Each unit should be labeled as to Name, Functions, and the Positions included, and the Names of Incumbents, if desired.

4. A standard system of naming the units should be followed throughout—Department, Division, Section, Branch or Bureau, Unit—according to ranking importance.

In this series of divisions the Department is a major division of the organization, coming under the immediate direction of the General Management. The Division is the main sub-division of a

Department, the Section is the main sub-division of a Division, etc. Each one of these parts of the organization from Department to Unit must have an identity as an organization in itself, that is, it must consist of persons in differentiated positions with distinct functions as a whole, i. e., a group of ledger clerks in the "Billing Unit" would not usually constitute a special unit of organization because they probably would not be performing a complete set of functions, differentiated and integrated as a whole.

There are frequently small sub-divisions of an organization coming under the immediate direction of the General Management, such as Clerical, Buildings, etc., which do not have the ranking importance to be classed as Departments. It is usual in such cases to give a designation of minor significance, such as Section, Branch or Unit.

5. Lines of authority and Executive, Staff, and Line relationship are shown as follows:

Executive—Square cornered block in dominant position.

(Executive Service—Establishing procedure and organization; Issuing orders and directions; Making decisions, etc.).

Staff—Round cornered block in subordinate po-

sition connected from the center of the top to the bottom of the block of its next superior unit at point to one side of the center.

(Furnishing information and advice to Executives; Collecting data; Making reports; Proposing plans, etc.).

Line—Square cornered block in subordinate position connected from the center of the top to the center of the bottom of its next superior executive block.

(Carrying out orders and executive directions and the routine operations of the business).

IV

KEY TO ANALYSIS AND CLASSIFICATION OF PERFORMANCE IN VOCATIONAL RELATIONS

Note:—This Key embraces an analytical “Check List of Items in Performance Essential to Technique in Occupations” for use in examining persons and occupations and an “Outline of Intelligent Performance in Organization” so that with it, required performance in occupations and the performance for which persons are adapted may be characterized and then classified according to production status and also according to the kinds of technique involved.

Performance may be analyzed into its component acts and therefore classified according to the kinds of acts which compose it. Concerning any occupation or position, there are items in performance which are not technical but are essential to technique and consideration of the technique is required for relevant judgment. Discovery of these items and their collection into a concrete statement constitutes a characterization of performance by which the nature of its acts will be distinctly set forth. Characterization of performance in this manner therefore constitutes a basis for rational judgment of workers, or prospective workers, and for graded classification of their occupations or positions, as well as for functional classification according to the kinds of technique involved.

CHECK LIST OF ITEMS IN PERFORMANCE ESSENTIAL TO
TECHNIQUE IN OCCUPATIONS

Note:—We can observe the developmental stages of thought and performance and outline them by noting items which are characteristic. On this basis, degrees of intelligence may be determined and stated, and, in characterizing performance, we must consider its intelligence features as of primary importance because they specify capacity for volitional accomplishment. Second to this, the inclusion in the performance of features pertaining to particular kinds of thought and action, association, and enforced living conditions, should be considered.

The following list should be regarded as suggestive but not exhaustive.

Check, Weigh (by checking once, twice, or three times), Extend, and Summarize Items for Characterization.

Physical—

- (1) General application with good health.
- (2) Application enduring under specially ardent circumstances of———; ——?
- (3) Application of physical strength to the particular degree of———?
- (4) Application of certain parts of the body though others may be impaired———; ——;
- (5) Standing.
- (6) Walking.
- (7) Lifting.
- (8) Pulling.
- (9) Handling.
- (10) Delicate application of the sense of touch, sight, hearing, etc.
- (11) Presenting a military bearing, etc.

Mental—

Perception.

(1) Accurate observation—

a—Attention to objects with concentration and with trust in and intention to recall their impressions.

b—Quick perception of essential elements and their integration—original analyses and syntheses and organization of ideas.

Memory.

(2) Recognition of associations, real or accidental, essential to the memory of ideas.

Discrimination.

(3) Judgment of qualities by comparison with established standards.

(4) Analyses and classifications by established procedure.

Response to dictates.

(5) Initiation of action.

(6) Maintenance of established standards; ————?

(7) Resourceful application of courses of action.

(8) Close application in routine standard practice; ————? ordering, scheduling, dispatching.

Planning.

(9) Constructive imagination and the development of new courses of action; ————?

(10) Establishing standards; ————?

Adherence to truth and trust.

(11) Tenacious adherence to fact in spite of adverse consequences.

(12) Custody of property and information in trust.

Dealing, Association, and Expression as to Kinds of Thought and Action.

(13) Dealing with fairness.

- (14) Promptly making and holding to decisions with self reliance and courage of convictions.
- (15) Spontaneous expression of self-reliance and ability to carry out a project, sufficient to inspire the respect, trust, and confidence of others and their subordination to leadership.
- (16) Delegating performance.
- (17) Organizing division of labor.
- (18) Gauging correctly the ability of others.
- (19) Gauging correctly the effect of instruction of others and adapting it accordingly.
- (20) Ardent search for fact.
- (21) Invention—combination of structural elements for advantage in performance.
- (22) Accepting circumstances as a matter of course without generalizing as conspiringly antagonistic.
- (23) Judging human temperament.
- (24) Intuitive action to command and sustain favorable attention.
- (25) Resourceful treatment to sustain interest.
- (26) Association with poise and good address.
- (27) Tactful association with others.
- (28) Expression of inspired sentiment and thought through some medium to inspire similar sentiment and thought in others—literature, science, art, religion, etc.
- (29) Devising propaganda.
- (30) Spontaneous expression of simple tastes and cleanliness.
- (31) Spontaneous expression of desire to serve rather than to be served.
- (32) Spontaneous expression of humility.
- (33) Modest spontaneous expression of liking for intellectual pleasures.

- (34) Spontaneous expression in any particular fields of thought or endeavor which may be relevant in performance—

Science—pursuit of (research) or application of (professions and engineering) ;

Mathematics, Accounting, etc.

Physical Sciences.

Natural Sciences.

Economics, Political and Social Sciences, inc.

Law Government, Finance, etc.

Letters—

Journalism and Literature.

Acting.

Public Speaking.

Lexicography and Spelling.

Language.

Art—

Music.

Sketching, Painting, Photography.

Designing.

Modeling.

Architecture.

Drafting.

Penmanship.

Craftmanship and Manufacture—

Mechanical Trades.

Machine Operating.

Other Mechanical Manipulations.

Clerical Routine Operations—

Stenography.

General Office Practice.

Agriculture and Animal Industry—

Farming.

Dairying.

Stock Raising.

Commerce—

Selling.

Purchasing.

Distributing.

General Trading.

Social Development—

Teaching.

Industrial Relations.

Preaching.

Missionary Work—religious, medical and social service or philanthropy.

(35) Spontaneous expression toward any particular conditions of living environment which may be relevant in performance, either during or outside of working hours, i. e.—

Expression as to Enforced Living Conditions.

Motion and Activity.

Shifting Scenes.

Transient Abodes.

City Life and Artificial Things.

Individual Freedom.

Social Activities.

Out of Door Pursuits.

Sea Life.

Military Life.

Sport.

Quiet and Stillness.

Sameness.

Home Life.

Rural Life and Nature.

Family Responsibilities.

Solitary Activities.

In Door Pursuits.

Note:—Add any other items which may be relevant to the performance being considered.

OUTLINE OF INTELLIGENT PERFORMANCE IN ORGANIZATION CLASSIFYING PERFORMANCE ACCORDING TO ITS PRODUCTION STATUS

Note:—The production status of performance in organized division of labor corresponds to its intelligence status because performance ranges through management and routine standard practice according to its production control on account of the degree and scope of reasoning and planning or decision and skill involved, which verifies the fact that intelligence is capacity for volitional accomplishment. Grading occupational performance according to its intelligence status therefore classifies it according to its production status and the intelligence status of performance is the basis for its classification according to the following outline.

I. Management

Constructive imagination with formulation and development of consequent courses of action even against environmental and instinctive dictates;

Original analyses and classifications on the basis of fundamental likenesses and differences; Establishing standards;

Accurate observation; Resourceful application of courses of action.

Constituting two kinds of service applying in an organization either with general scope or in departmental relationship:

1. *Executive Service*, including all of the following kinds of performance:

ORGANIZATION—analyzing and classifying the func-

tions in a division of labor; Constructing and integrating the essential positions for the performance of the functions.

JUDGMENT OF OTHERS—gauging correctly the ability of others for placement in the scheme of organization.

DECISIONS—fair, definite, prompt, and logical, taking fair chances and holding with moral courage of convictions and self-reliance regardless of criticism.

ASSOCIATION—with poise and spontaneous expression of self-reliance and ability to carry out a project, sufficient to inspire the respect, trust and confidence of others and their subordination to leadership.

INSTRUCTION—gauging correctly its effect and adapting it accordingly.

2. *Staff Service*, including informational, advisory, or development performance of various kinds, such as the following:

INVESTIGATION OR RESEARCH—ardent search for discovery of facts, scientific, commercial, etc.; Systematizing and interpreting the meaning of disclosures in concrete relations; reporting results of research with recommendations.

INVENTION—study of known facts and methods and devising means for operation with improvement in quality of product, greater economy, efficiency, etc.; Devising new combinations of elements for these purposes.

COMPILATION OF DATA—to furnish information of any kind—events, current operations, financial status, environmental conditions, etc.; Reporting information; Publication.

REFLECTING INSPIRED SENTIMENT through some medium of expression to inspire similar sentiment in others (includes the performance of all kinds of art.).

DEVISING PROPOGANDA—advertising, etc.

A. General Management Class 1

Executive service of the general organization including organization and administration for efficiency in Financing, Production, Sales, and adjustment of relations with Investors, the Public, and the Personnel.

In this class is the performance of various grades pertaining to the positions of President, Vice President, General Manager, etc., in any organization.

B. Departmental and Associate Management Class 2

Executive and Staff Service of departmental scope or of interdepartmental scope but specialized or limited as to function.

In this class is the performance of various grades pertaining to positions of managers of divisions and subdivisions of the organization and to the various positions of Executive and Staff Assistants, the number of grades depending upon the complexity of the organization.

II. Line Service

Routine standard performance dictated by authority or experience; Constructive imagination of a more limited character than in "T" or of negligible importance.

A. Supervision Class 3

Judgment of qualities by comparison with established standards; Analyses and Classifications by established procedure; Execution of intricate standard practice including delegation of performance and direction of others; Dealing with fairness and association with poise and the spontaneous expression of self-reliance, and ability to carry out a project, sufficient to inspire the respect, trust and

confidence of others and their subordination to leadership; Promptly making and holding to decisions with self reliance and courage of convictions; Accurate observation; Resourceful application of courses of action; Limited investigations and recommendations.

B. Highly Skilled Service Class 4

Judgment of qualities by comparison with established standards; Analyses by established procedure; Performance of intricate, complicated and exacting details under limited supervision—dictated by long experience; Administration in detailed procedure concerning only performance in positions of lower grade.

C. Skilled Service Class 5

General performance as for "B" but less intricate and exacting and subject to more supervision; Administration over minor details only concerning performance in positions of lower grade.

D. Semi-skilled Service Class 6

Tasks requiring skill acquired by comparatively short periods of experience; Routine of limited scope—without close supervision; Assumption of minor responsibilities with self reliance.

E. Unskilled Service Class 7

Simple tasks in which skill is acquired with comparatively little experience and performance requires no previous technical training or experience—subject to supervision or direction almost entirely.

STANDARD SPECIFICATIONS AND GRADED CLASSIFICATION FOR POSITIONS

THE ESSENTIAL PERFORMANCE IN ANY POSITION OR OCCUPATION may be SPECIFICALLY DETERMINED and GRADED upon a natural Intelligence Scale with the aid of the Key, preceding, and the first qualification of incumbents must be that they can meet these performance requirements by corresponding intelligence endowments. Moreover, grading the performance of a position or occupation upon this scale classifies it according to its PRODUCTION STATUS because it is a fact that the production value of performance in organized division of labor is in proportion to its intelligence status. That is to say, in organized division of labor, all positions are concerned with production and performance ranges through management and routine standard practice according to the status of reasoning and planning, or of the decisions and skill involved in production CONTROL. The higher the degree or the greater the extent of the intelligence which characterizes the performance required in a position, the greater is the control of production and the lower the degree or the less the extent, the more is the performance machine like and the less is its control. Men and machines, however, are not to be confused. The man is always called upon for voluntary control but the machine never can exercise such functions as this involves.

THE PERFORMANCE in ANY POSITION also may be REGARDED as of TWO PHASES, namely,—TECHNICAL, or that pertaining to a special industry and kind of work and requiring technical experience; and NON-TECHNICAL, or that pertaining to personal adaptations to the environment of the position and essential to its technical performance, though not necessarily specific, physical and mental, as developed from hereditary endowments under environmental influences as a whole. The non-technical features of performance determine efficiency or involve reactions upon others—superiors, subordinates, associates, patrons, or competitors. Characteristics, physical and mental, by which this performance is prompted, are the variables which make personal differences. They develop under environmental influences from the chance combinations of elements derived paternally and in the living world broadly, produce the varieties which we call adaptations or misfits according to the environmental relations in which we find them.

The essential performance in any position may therefore be analyzed according to these principles, and specifications made up (See Fig. 11, 12, 13).

Procedure of Analyses, Specification, and Graded Classification of Positions

In General

Before positions can be definitely classified it is necessary to establish specifications by which they shall be defined and standard titles by which they shall be designated. These specifications should include a concise summary analysis of the essential performance pertaining to each position. It is also important to include, for each

position, a statement of the training and experience necessary to qualify persons for appointment to the position.

The information necessary for making up correct specifications is not possessed by any one person. It must therefore be collected from a number of persons according to their acquaintance with the various positions. Among these should be the incumbents of the positions themselves because they know the performance of their positions better than others.

After specifications have been established, positions should be graded according to their relative control of production on account of the reasoning and planning or decisions and skill involved in their performance.

Positions should then be segregated into graded series according to kinds of service, by functional classification.

Essential Steps

0. Preliminary Step, see No. 8.*

1. By means of a questionnaire or instruction blank, collect data as to the performance of positions from their incumbents and their supervisors (see Fig. 14).

2. Classify these returns tentatively, according to the kinds of work involved and the positions included.

3. Note the positions which have essentially the same performance under different titles and collect their blanks under the same title.

4. Note the positions which have the same title but different performance and separate their blanks, giving them different titles.

5. Using an "Analyses Record" form (see Fig. 10) for each position, *list* the essential items of technical performance, making a complete study of the performance in each case.

6. In the Analyses Record, list the essential items of

non-technical performance, using the "Check List" of the Key preceding.

As to exactly what this performance is, the determination requires careful study of the position in question. Every position from president to laborer has a series of requirements, not technical, but essential to technique, which should be set forth in its specifications and called for in the examination of its prospective incumbents. (see specimen Analyses Records, Figs. 11, 12, 13).

7. In the Analyses Record, state briefly the training and experience necessary for performance.

8. According to the "Outline of Intelligent Performance in Organization" of the Key preceding, carefully classify the positions, using the Analyses Records made and note the classification in the Record in each case.

Sub-divide any class if there is a difference as to intelligence grade of performance between positions included.

This specifies the intelligence status of the performance in each position, and therefore the standard for the incumbent selected and grades the positions upon this as a *fundamental* basis for appraisal in compensation rating.

This work may be facilitated by having this Outline of Performance, as far as its several classes are concerned, arranged as a series of forms on loose guides (see Figs. 2, 3, 4, 5, 6, 7, 8), one of each class, with interleaves (Fig. 9) for sub-division and extension, so that the Analysis Record cards for positions may be readily sorted and placed according to the guides.

Spaces on the guides, as shown, are arranged for listing the titles of positions included. (The titles appearing on the guides, as shown, are merely illustrative). If these are entered across the guides and those of the same or allied lines of work are given the same order of entry in all classes, definite lines of advancement will be indi-

cated, as shown by some of the specimen entries made. The spacing for entry of titles may be extended by using an interleaf (Fig. 9). *This SUMMARY CLASSIFICATION MAY BE MADE TENTATIVELY BEFORE MAKING OUT THE COMPLETE SPECIFICATIONS FOR THE POSITIONS BY SIMPLY ENTERING THE TITLES UPON THESE BLANKS FROM THE MENTAL CONCEPTIONS OF THE POSITIONS AS ACCEPTED IN GENERAL USAGE. WHEN THIS IS DONE, THE IMPORTANCE OF DEFINITE ANALYSES AND SPECIFICATIONS WILL BE REALIZED AND THE COMPREHENSIVENESS OF THE PLAN AND THE LACK OF DEFINITION AND UNIFORMITY WITHOUT IT WILL BE APPRECIATED. FOR THIS REASON IT IS WELL TO DO THIS AS A PRELIMINARY STEP IN A SURVEY.

9. Assemble the Analysis Records thus completed and arrange them by their graded classification after segregating them according to kinds of service by a final functional classification.

Conclusion

This will then constitute the "Standard Specifications and Graded Classification" for the positions of your organization and may be kept in a vertical file or as a loose leaf book. The entries on the guides will give a "Summary Classification."

Note:

The kinds of service into which positions may be classified differ, of course, among companies or corporations. Some, which are typical, are as follows:—

Auditing and Finance Service—controlling and accounting.

Clerical Service—general office practice.

Commercial Service—selling, purchasing, and general trade.

Custodial Service—care taking, maintenance and operation of buildings.

Inspectional Service—making examinations and reports as to the maintenance of standards in materials and practice.

Investigational Service—research and recommendations as to new standards and procedure.

Mechanical Service—practice in mechanical operations and manual labor, specialized and unspecialized.

Miscellaneous Professional Service—engineering and other established practice in scientific applications, general organization and administration, etc.

Taking each of these with a definition as to its general character, division may be made into groups, in order to further segregate positions by function or nature of work performed, thus—

Clerical Service

Including positions in which the incumbents perform or supervise routine work in general office practice.

Clerk Group, Dispatcher Group, Stenographer and Typist Group, Storekeeper Group, Telephone Operator Group.

Clerk Group—Chief Clerk, Senior Clerk, Clerk, Assistant Clerk, Junior Clerk, Messenger. Titles such as Computer, Time Checker, Comparer, etc., may be readily included by these titles for the various grades of the Clerk Group.

(See "Job Specifications," Federal Board for Vocational Education, Nov., 1919).

Form 1

I. MANAGEMENT

Figure 2

A. General Management

Class 1

Executive service of the general organization including organization and administration for efficiency in Financing, Production, Sales, and adjustment of relations with Investors, the Public, and the Personnel.

In this class is the performance of various grades pertaining to the positions of President, Vice President, General Manager, etc., in any organization.

Form 2

Figure 3

B. Departmental and Associate Management

Class 2

Executive and Staff service of departmental scope or of interdepartmental scope but specialized or limited as to function.

In this class is the performance of the various grades pertaining to positions of managers of divisions and sub-divisions of the organization and to the various positions of Executive and Staff Assistants, the number of grades depending upon the complexity of the organization.

—POSITIONS—

Titles	1 Production Manager	2 Chief Engineer	3 Controller	4 Sales Manager	5 Employ- ment Manager	6 Gen'l Pur- chasing Agent	7 Traffic Manager
Pay Range							
Standard Rates							
Special Notes							

II. LINE SERVICE

A. Supervision

Class 3

Judgment of qualities by comparison with established standards; Analyses and Classifications by established procedure; Execution of intricate standard practice including delegation of performance and direction of others; Dealing with fairness and association with poise and the spontaneous expression of self-reliance and ability to carry out a project, sufficient to inspire the respect, trust and confidence of others and their subordination to leadership; Promptly making and holding to decisions with self-reliance and courage of convictions; Accurate observation; Resourceful application of courses of action; Limited investigations and recommendations.

—POSITIONS—

Titles	1 Plant Supervisor	2 Engineer	3 Auditor	4 Sales Rep- resentative	5 Inter- viewer	6 Buyer	7 Office Mgr.
Pay Range							
Standard Rates							
Special Notes							

Form 4
Figure 5B. Highly Skilled Service Class 4

Judgment of qualities by comparison with established standards; Analyses by established procedure; Performance of intricate, complicated, and exacting details under limited supervision—dictated by long experience; Administration in detailed procedure concerning only performance in positions of lower grade.

—POSITIONS—

Titles	1 Boiler Engineer	2 Senior Draftsman	3 Account- ant	4 Solicitor	5 Correspon- dent	6 Store- keeper	7 Chief Clerk
Pay Range							
Standard Rates							
Special Notes							

General performance as for "B" but less intricate and exacting and subject to more supervision; Administration over minor details only concerning performance in positions of lower grade.

—POSITIONS—

Titles	1 Water Tender	2 Draftsman	3 Book- keeper	4 Collector	5 Senior Stenog- rapher	6 Assistant Store keeper	7 Senior Clerk
Pay Range							
Standard Rates							
Special Notes							

Form 6
Figure 7D. Semi-Skilled Service Class 6

Tasks requiring skill acquired by a comparatively short period of experience; Routine of limited scope—without close supervision; Assumption of minor responsibilities with self reliance.

—POSITIONS—

Titles	¹ Stoker Operator	² Tracer	³ Chauffeur	⁴ Delivery- man	⁵ Stenog- rapher	⁶ Stock- keeper	⁷ Clerk
Pay Range							
Standard Rates							
Special Notes							

Form 7
Figure 8

E Unskilled Service

Class 7

Simple tasks in which skill is acquired with comparatively little experience and performance requires no previous technical training or experience—subject to supervision or direction almost entirely.

—POSITIONS—

Titles	1 Ashman	2 Watchman	3 Cleaner	4 Packer	5 Duplicator Optr.	6 General Laborer	7 Messenger
Pay Range							
Standard Rates							
Special Notes							

Form 8
Figure 9
Designation—
Performance—

Class.....
Sub.....

—POSITIONS—

	1	2	3	4	5	6	7
Titles							
Pay Range							
Standard Rates							

ANALYSIS RECORD

Title—Executive Assistant

Intelligence Status—Class 2

Performance Requirements		Comparative Rating	
		Appl.	Model
Non-technical—			
Physical—			
General application with good health.....		5	6
Mental—			
Accurate observation and constructive imagination.....		5	
Decisions with courage of convictions and self-reliance in determining new courses of action.....		10	
Expression of self reliance without resentment when under criticism.....		10	
Association with tact, poise, and good address.....		10	
Gauging correctly the effect of instruction and adjusting it accordingly.....		5	
Tenaciously holding to truth and trust even against strong environmental influences.....		10	
Quantity Production—Standardizing, Scheduling, Dispatching..		5	55
Technical—			
Assisting executive in developing policy and administrative plans in his particular line of work.....		10	
Decisions as to responsibilities delegated by the executive.....		10	
Following up and arranging affairs for the executive—conferences, correspondence, organizing records, etc.....		5	
Investigations and reports in matters of organization.....		10	
Transmission of orders and decisions to departments.....		5	
Interviews.....		5	40
(Minimum for placement—50% of maximum on every grade; 70% of highest possible total.)		100	
		Examiner—	

(Form 9)

Figure 12

Title—*Senior Stenographer*

ANALYSIS RECORD

Intelligence Status—Class 5

Performance Requirements		Comparative Rating	
Non-technical—		Appl.	Model
<i>Physical—</i>			
General application with good health.....		5	
Special application of senses of sight, hearing, touch.....		5	
Special application of fingers.....		5	
		15	
<i>Mental—</i>			
Initiation of action and spontaneous expression in clerical routine		5	
Maintenance of established standards.....		5	
Systematic ordering and classification.....		5	
Accurate observation.....		5	
Association with poise and good address.....		5	
Quantity production—Standardizing, Scheduling, Dispatching...		5	
		30	
<i>Technical—</i>			
(1) Stenographic writing from dictation at a speed of approximately 110 words per minute.....		10	
Typing from stenographic notes at a rate of approximately 40 words per minute with accuracy.....		10	
Duplicating and publishing typed reports.....		5	
Original composition of letters and manipulation of correspondence		5	
		30	
Or—Stenographic work of a less technical character but involving the particular business of the Company and methods of the subdivision in which employed.....		30	
(2) Administration over detail concerning others assisting.....		25	
Or—Office detail as stenographic secretary to executive.....		25	
		100	
(Minimum for placement—50% of maximum on every grade; 70% of highest possible total.)		Examiner—	

(Form 9)

Figure 13

ANALYSIS RECORD

Title—*Planer Operator*

Intelligence Status—Class 5

Performance Requirements

	Comparative Rating	
	Appl.	Model
<i>Non-technical—</i>		
<i>Physical—</i>		
General application with normal strength and endurance.....	4	
Special application of hands and feet.....	2	
Special application of senses of sight, hearing, touch.....	2	
Balancing, climbing	2	
	10	
<i>Mental—</i>		
Concentration of attention	5	
Close application to routine and relevant spontaneous expression in mechanical operations	5	
Quantity Production—Standardizing, Scheduling, Dispatching...	5	
	15	
<i>Technical—</i>		
Reading of drawings and sketches, shop directions, etc.....	10	
Setting-up, blocking, clamping of light and heavy, or springy parts for planing.....	10	
Laying out work, using gauges of various types.....	10	
Setting tools, facing, squaring, undercutting, fitting, finishing to size	10	
Care of tools	10	
Appreciation of working properties of metals in cutting.....	10	
Appreciation of speed values in cutting.....	10	
Care of machine	5	
	75	
(Minimum for placement—50% of maximum on every grade; 70% of highest possible total.)		
	100	
	Examiner—	

(Name of Employee) (Position)

Form 10 *Figure 14*

Statement of Duties Performed

Give a complete and accurate statement of the items of work which you now perform, describing each in sufficient detail to indicate the scope and character of your employment. Describe routine tasks, first, then special or occasional tasks. If you direct and are responsible for the work of others, indicate the character of the supervision, etc.

(Note.—The information necessary for making up correct specifications is not possessed by any one person. It must therefore be collected from a number of persons according to their acquaintance with the various positions. Among these should be the incumbents of the positions in many instances, because they know the performance of their positions in many respects better than others. Therefore important data may be collected by having this form filled in by employees.)

In What Sub-division of the Organization?

Name of Immediate Supervisor—

.....

To Be Filled in by the Immediate Supervisor

Indicate any respects in which the above statement of duties is not accurately or sufficiently descriptive—

Indicate what qualifications are required for satisfactory performance of the duties of this position:

Common School	High School	Technical
Training .....	..... years schooling at .....	.....
License as .....	.....	.....
Supervisory Ability .....	.....	.....
Executive Ability .....	.....	.....
Physical Qualifications .....	.....	.....
Other Qualifications .....	.....	.....
Signature.....	Title.....	Date.....

(Figure 14 continued)

COMPENSATION RATING

Basis the Control of Production

Under natural conditions, individuals are paid for SUPPLY of commodities or services according to the CONTROL which they exercise over it, whether they actually produce the commodities or services, or not. Therefore, the control of production by service is the fundamental basis upon which it should be rated for returns.

Two Phases of Control by Service

There are two phases through which control of production is exercised by service of any kind which is essential to it. One is through its supply in the abstract, and the other is through its organization status, that is, through its application in the organized scheme for division of labor necessary for production as a whole, as shown by classification according to the procedure outlined above.

Control of Production by Supply of Service in the Abstract Rated by Bargaining

Control of production by service through its supply in the abstract is rated by bargaining, as with commodities, and the relation between supply and demand fixes an economic rate. Recognition of relative control of production on account of the organization status of service is usually more or less eclipsed by bargaining for service in the abstract and this is conducive to a consciousness on the part of workers of inequities in dealing, or inequality of pay for equality of service, and that progress is not a consequence of accomplishment. This condition requires autocratic methods and induces low morale.

*Rating the Production Control by Service Must Meet the
Prevailing Economic Rates and also Reflect Or-
ganization Status*

The rating of production control by service, therefore, must meet the economic rate for its supply in the abstract and also must express its relative production control on account of its organization status when compared with other rates in the same organization, that is, pay rates should co-ordinate. Membership in an organization merits its recognition of both of these phases of production control because the worker becomes adapted to special requirements and cannot be readily replaced and he is also withdrawn, to a considerable extent, from the open labor market because of his special application. This condition is favorable to stability. If we offer, however, only the economic rate for labor as a commodity, we encourage the worker to keep his services always on the open market and encourage turnover. The members of an organization, therefore, if they are completely integrated, should be worth more to that organization than they could merit in similar work in any other organization and more than others in the open market who are not so integrated. Organized service has thus more worth than labor in a commodity sense and rates which reflect organization status and are higher than market rates for similar labor as a commodity, are just. Just compensation rating is therefore not so much a question of what others pay as it is a question of participation in the yield of production control, rates for similar service in different organizations selling their products at corresponding prices being different according to their differences in efficiency in production.

Minimum Rate Established as a Base in a Rating Scale

A position which requires a mature person's full time must pay a return sufficient to meet the demands of his necessary living environmental relations, otherwise he cannot furnish the kind of service required. Therefore, the cost of living is a primary factor in rating and a minimum rate should be established for mature workers to comply with a rational estimate of living demands. This must be regarded as a constant factor in the cost of production. The actual rate may change with the purchasing power of money but any self-sustaining organization should, at least, support all of its members.

A scale of rates should then be established ranging upward from the minimum rate for mature persons of lowest organization status and applying to positions according to their classification as to intelligence status of performance. At the same time, these rates must be adequate to meet prevailing economic rates for any kind of service essential and should be subject to rise and fall with the minimum rate.

Pay Ranges

A range, including, minimum, maximum, and intermediate rates, should apply to the positions of each grade in order to place the service of every position within its proper limits and to give latitude in the application of rates according to the efficiency or merit of incumbents' performance, taking the minimum rate of a range as the rate for the new worker in a position within the range, under normal conditions.

Working Conditions Meriting Special Compensation

Especially hazardous, arduous, or disagreeable working conditions, which are real and unavoidable, should be

compensated for in some manner. This may be accomplished by adding a bonus or other form of added payment to the rates which would apply to positions effected without regard to these special conditions.

Special Incentives to Efficiency

Financial incentives are essential to maximum production and should apply with equal opportunity to all workers in an organization. There is no real distinction between workers in the mechanical trades and those in the offices, as to production. All are producers, and, according to efficiency, should receive compensation equivalent to the rates ranging from the minimum to the maximum applying to their respective positions. A "Follow-Up of Progress Record" should reveal the facts with regard to individual efficiency by exhibiting periodic notations of data regarding specifications of work, whether they relate to daily production on the basis of specific operations in shop work, or periodic rating with respect to other kinds of items in performance (See Fig. 16).

Financial incentives, to be effective, must be clearly visible to the worker as applying directly to his individual efforts by appreciable remuneration and must be determined upon a basis simple enough to be clearly understood by the individuals concerned. Secrecy in matters of this kind, as in most other matters of management, is disastrous to co-operate relations.

Summary of Elements Concerned in Compensation Rating.

Following are the elements, therefore, with which we are concerned in compensation rating:—Economic Rate, Organization Status, Cost of Living, Merit or Efficiency of Incumbent, and Working Conditions Meriting Special Compensation.

THE ADVANCEMENT OF INCUMBENTS

Advancement Not Involving Change in Position

As stated above, advancement of an incumbent from rate to rate, within a range allowed for his position, on the basis of productive efficiency, is essential as an incentive to his development in efficiency and continuance in service.

In salaried positions, periodic limits of eligibility for advancement from rate to rate, i. e., 6 months, one year, etc., promote equity in dealing and simplify the procedure of adjustment, especially because of the fact that determination of efficiency cannot be upon an exact basis and practical distinctions therefore cannot be made without due time for collection of data.

Adjustment according to merit necessitates advancement when it is due, therefore, when the time of eligibility arrives, an incumbent should be advanced according to data shown by a "Follow-Up of Progress Record" and advancement should be noted in and followed up from this record.

Promotion

Positions of the higher grades should be filled by promotion of the incumbents of positions of the lower grades, as far as these persons can meet necessary qualifications, and their standing with respect to this should be taken from the "Follow-Up of Progress Record."

INDIVIDUAL PLACEMENT, FOLLOW-UP, AND TRAINING

In General

If we specify the essential performance requirements for positions or occupations clearly and determine the intelligence status of the performance in each case, **WE CAN MATCH UP PROSPECTIVE INCUMBENTS TO THEM** by knowing definitely what to look for in the individuals, and in cases of inexperienced persons, when we have matched their personal aptitudes to the specified non-technical performance of positions, we can give vocational guidance and specify training courses. Moreover, by standardizing the method for judgment by different examiners, their judgments will be upon a fair basis for comparison as they will be derived by the same procedure. The accuracy of a decision obtained will depend upon the intelligence and experience of the examiner, the accuracy of the analysis of performance in positions, and the amount of evidence which

the examiner is able to collect with regard to capabilities in the individuals examined to meet the requirements called for in the specifications. Testing, or collecting evidence, should therefore be as complete as possible with methods available but rational and pertinent to the points called for and we thus avoid "lump sum" judgments and guesses (See Fig. 15).

Procedure in Diagnosis for Placement

STEPS

1. Using an "Analysis Record" blank (See Form 9, the same form as for the position) for each prospective incumbent, have each one make out his record for Previous Positions and Essential Training and Experience by years (as provided for in the blank).

If anyone is unable to do this for himself, the examiner should do it from his answers to questions.

2. Complete the record of information with reference to items called for upon the blank.

3. It may be helpful to enter as MODELS the names of two persons *known to you* whose placement is regarded as correct. This forms a tang-

ible reference basis in the examination of prospective incumbents.

4. Interview each person directly or indirectly and give any tests which may be feasible with

The phases in an examination of candidates may be listed as follows: Personal Interviews, Tests, References.

Personal Interviews, given by a single examiner or by several, individually or collectively, should be so conducted as to put the candidate at ease and call forth his free expression relevant to the essentials of performance under consideration. Determinations by interview are judgments, impressionistic in character, which are the only kinds of judgments obtainable with regard to many items of performance and therefore the interview is the most important phase in examination.

Tests are Physical and Mental. The physical tests usually are of the character of a medical examination. Mental tests include psychological tests, trade tests, and educational tests.

Psychological Tests are tests in the actual performance of exercises each of which requires a particular degree of general intelligence, or of a phase of intelligence (capacity in one of the functions—attention, perception, memory, discrimination, response to dictates, reasoning, etc.) for its execution according to a fixed standard. In the application of such tests it should be fully appreciated that a single test is subject to many accidental influences which restrict its revelations to momentary ability only and it therefore is no proof of ultimate capacity, which is the thing actually to be determined. The ultimate capacity of an individual is revealed by the kind of acts which he is capable of performing after repeated application and continuous practice and individual differences shown by a first or preliminary test will not be the same as at the end of periods of practice during which individuals have acquired the highest degree of skill attainable by them. However, in competitive examinations, persons who show ability at the moment deserve selection, with respect to items in question, over those who do not, if the examination takes into account the item, "Maintenance of Established Standards."

Trade Tests are exercises assigned for the purpose of de-

regard to the essential points listed in the Performance Requirements as given in the Analysis Record of the position to be filled.

5. Aside from the notice of the applicant, enter in his Analysis Record a judgment mark for each of the primary points of the performance requirements transcribed from the Analysis Record of *the position* to that of the prospective incumbent. See No. 3. Consider the requirements, *knowing*

termining the skill which a person may have in a trade. It has been found that persons who acquire skill in mechanical trades also acquire a working vocabulary of trade terms and therefore testing knowledge of trade terms in addition to knowledge of courses of action applying to specific circumstances and established standards by means of a rationally composed questionnaire, is a fair indication of one's status in trade performance. Actual exercises in trade operations are also given at times but such procedure is usually impracticable. Accidental influences must be taken into account in trade tests, as with other tests.

Educational tests are the exercises commonly assigned in the form of a questionnaire for testing knowledge in any subject. The value of a test of this kind depends mainly upon the intelligence used in selecting questions and it should be appreciated also that tests of this kind show only momentary ability, as is true of psychological tests and trade tests, which may or may not be the same as ultimate ability.

References are subject to prejudice for or against a person. His personal references will likely be prejudiced in his favor and an employer, whose service he is leaving, will in many instances be resentful, especially if the person was a competent employee. These facts should be fully appreciated in weighing the merits of letters of references (See "The Selection and Placement of Employees," Federal Board for Vocational Education, Nov., 1919).

the job and with common sense, especially with respect to individual supervisors concerned.

These marks should be weighed to represent relative values and should when added, represent the final mark or general grade, for which the most convenient basis is probably 100.

6. Rate the intelligence status of each person by the class number for the status of performance of which he gives evidence of being capable and enter it in his record.

7. With inexperienced persons who give evidence of non-technical and intelligence qualifications, prescribe the essential course of training and experience for the performance requirements.

8. Classify the Analysis Records thus completed for various subjects in any desired way and file as a permanent record of examination and placement (See Fig. 15).

CONCLUSION: We thus consider aptitudes for performance individually and objectively and arrive at a decision by systematic diagnosis, avoiding "lump sum" estimates. Also, we judge adaptations concretely, since we have specific points to meet in the specifications, and we take standards for comparisons.

Performance Requirements

Non-technical—

Physical—

General application with good health.....
 Special application of senses of sight, hearing, touch.....
 Special application of fingers.....

Mental—

- Initiation of action and spontaneous expression in clerical routine
- Maintenance of established standards
- Systematic ordering and classification
- Accurate observation
- Association with poise and good address
- Quantity Production—Standardizing, Scheduling, Dispatching

Technical—

Stenographic writing from dictation at a speed of approximately 110 words per minute. Typing from stenographic notes at a rate of approximately 40 words per minute with accuracy. Duplicating and publishing typed reports. Original composition of letters and manipulation of correspondence.

Office detail as stenographic secretary to executive.....

[illegible]

Follow-Up of Progress Record

The keeping of "Follow-Up" records of the performance of members in an organization is a specialized function in centralizing recognition of the state of efficiency of the individual members and a most important point of contact between the central directorate and local directorates with regard to personnel administration. It requires systematic periodic registry of data as to specific items in the performance of each incumbent of a position and organization of the file of data for instant reference and reflection of the status of each individual at the expiration of stated intervals of time (3 mo., 6 mo., 1 yr., etc.).

Data as, far as possible, should be with regard to objective points (clearly observable) and include observations of more than one judge, when possible, in order to be free from personal prejudice and arbitrary standards. When comparison of data regarding the efficiency of any incumbent at different times indicates a noteworthy change in efficiency, special explanation should be obtained and entered in the record.

The procedure of keeping "Follow-Up" records is simple and practical if a card is kept for each person, bearing a form for record such as

shown in Figure 16, including a list of items from the Analysis Record of the performance of the position occupied by the incumbent and note as to method of grading, and these cards are passed to and returned by the judges concerned, with regularity. If conducted seriously, this procedure will check up inconsistencies in judgments and placement and, in the long run, will establish a reliable basis for adjustments.

This procedure is one of the functions most essential to fair personnel administration. It is the principal means by which a policy for uniformity and fairness in dealing can be applied to individual workers because it is the only means for systematically presenting the merits of individual members of an organization to its executives. Its absence and the consequent existence of much decentralized despotism or personal favoritism have been responsible for much of the distrust and lack of faith in workers for management in industry. Instances of injustice have been common enough to be within the experience of everyone who has worked long in the ranks and are frequently so common as to be accepted as a matter of course.

Failure to carry on the procedure with regular-

ity and competent supervision, or with analysis of the performance concerned, is equivalent to or worse than no attempt to do it at all. For example, the following cases are cited:—

(1) In a navy yard, a locomotive engineer of wide experience and long service before and during the War was suddenly laid off and given a notification slip signed by an officer's rubber stamp and bearing the ratings—Efficiency 65 per cent. and Conduct 60 per cent. He wrote his Congressman explaining the circumstances and was personally called upon afterwards by a higher officer and invited to return to work, whereupon his ratings were raised by the Commandant to 90 per cent. and 100 per cent.

There were evidently in this case, no tangible data for placing the original ratings at 65 per cent. and 60 per cent. respectfully and, if the man was important enough to be restored in the manner stated, the reason given for lay off, "no work," was a ruse.

(2) In a large city school system, a high school instructor of ten years standing "took a chance" in 1918 and resigned to take up government war work. He had letters in his possession given by various supervisors at different times during and

at the end of his period of service which gave unqualified approval of his efficiency and competency. He applied for reappointment during the following year and was informed that his Principal (one of the supervisors who had formerly given unqualified commendation) had stated, in an answer to the Superintendent's inquiry, that his work toward the last was not as good as it had been formerly because of outside interests. This disagreed vitally with a written statement which he had received at the termination of his service from his Department Head but no data were given to substantiate the discrepancy and none were required by the Superintendent because it seemed most expedient for him to stand by the Principal. The facts were that during his last year the instructor did much less outside work than in previous years and the Principal could not have produced data to show that his work had deteriorated because he had not been in touch with it. He did not know even the subjects the instructor was teaching, to say nothing of his methods in teaching. The Principal was German and had been a German sympathizer during the War. He was resentful because of the resignation, but nevertheless his sweeping judgment

was all that would be considered by the Superintendent. The Superintendent explained that it would be a lot of "unnecessary work" to keep up records of data taken periodically, although the teachers had always been lead to believe that such records were kept.

Practice in rating men is thus quite different, in many organizations, from that of rating machines and equipment. If a foreman were to discard a machine costing fifty dollars, some tangible reason would have to be stated which could be verified and until rational methods under competent administrators can be used in connection with workers, distrust of management may be expected with its consequent effect upon production, and rational methods will need to be in force long enough for workers to experience their effects before their influence can produce results which, if effective even in a small degree, would justify the meagre expense of their operation.

THE INSTINCT OF PROGRESS

Follow-up records correctly kept and used are of great interest to workers in an organization and an incentive to efficient continuous service because instinct to make progress is vital and can be satisfied only under conditions of fair dealing

(Name of Employee) *John Doe* Form 11 Figure 16
Follow-Up of Progress Record Sr. Stenographer

Rated Performance	Jan.	1	Apr.	Jul.	Oct.	Apr.	Oct.		
Physical Application—with Health, etc.....	5		5						
Observation	4		4						
Initiation of Action.....	4		4						
Maintenance of established standards.....	4		4						
Systematic ordering and classification.....	3		3						
Association with poise and tact.....	4		4						
Stenographic writing	4		4						
Typing from notes	4		4						
Duplicating and publishing.....									
Original composition of letters and manipula- tion of correspondence	3		4						
Specific application to the business of the Company and its methods.....	3		4						
Administration over detail concerning others assisting									
Quantity Production	4		4						
Average	3.8		4						
Attendance	5		5						

NOTE—Grades—5, Excellent; 4, Very Good; 3, Good; 2, Satisfactory; 1, Unsatisfactory. These cards, when circulated periodically to supervisors, etc., give a progressive record in which inconsistencies and discrepancies will be revealed and whimsical judgments avoided. Judgment should be taken from more than one person, when possible, by using duplicate blanks—one for each person who gives a rating.

(REVERSE SIDE OF FORM 11)
JUDGE'S VOUCHER

[illegible]

which the correct keeping of follow-up records promotes. This instinct of progress is a most important characteristic of all living beings because the maintenance and perpetuation of life processes demands specific relations with an ever changing environment. To meet these demands we are sensitive to our surroundings and responsive in the performance of our correlated acts and acquire attitudes with respect to persons and things about us.

Mental comfort or happiness is enjoyed when we appreciate that the demands of our environmental relations are met. It instinctively depends upon the consciousness of success or accomplishment from hour to hour and day to day in whatever we may become interested. It is such a vital instinct to desire this progress that we suffer mental discomfort or the feeling of unhappiness if it is not satisfied.

To be conscious therefore of making definite progress is the root of joy in work and joy in life. It is an instinct not peculiar to ourselves but to all living beings in consequence of a universal law of progress shown everywhere in nature by continuous change and development.

We are therefore in harmony with our enviro-

onment when we can find in it courses of action which are creative and lead to progressive accomplishment as time goes on and, if we fail to find such courses of action, we are out of harmony and are unprofitably and unhappily situated. Longfellow expresses the idea in the following lines—

“Not enjoyment and not sorrow is our destined end or
way,
But to act that each tomorrow find us farther than
today.”

For mental comfort and happiness then we must consider occupational performance and work along lines which are interesting, moving, doing, and giving development and inspiration through new accomplishments, according to our aptitudes, as time goes on. The performance, unless we are economically independent, must yield commercial returns as part of its accomplishment, at least to the extent required by our living relations to environment, and must therefore be of a kind which is in *certain* demand.

Appreciation of progress is a strong incentive to effort and it may be very much facilitated by systematically noting and reviewing occurrences

and advances. Therefore, it is highly important to display graphically all available records of progress to individuals concerned, and to publish all intelligible information concerning the production which they control. The keeping of a journal and graphic summaries which can be projected perpetually (see Fig. 17, 18, 19, 20, 21, 22) is of value to individuals in this respect.

Financial Provisions

Progress on the whole gives satisfaction and peace of mind only when it is ample to provide for future wants. A portion of our regular returns, therefore, must be invested for accumulation of capital to meet future demands when returns from service cannot be maintained, or cannot meet an excessive demand.

There is no maximum limit to the amount which any one should so invest, provided that it does not unduly restrict provisions for present needs, but there is a minimum limit or objective whose attainment is essential to consciousness of progress in the full or complete sense and therefore essential to the mental states of confidence, comfort, and happiness.

The essential provisions beyond present needs

which progress calls for, which must fix our minimum objectives are:—

1. Insurance of acquired property and provisions for dependents in times of disability.
2. Educational and other developmental requirements of self and family.
3. Retirement endowment.

These provisions are therefore of vital concern to the individual and must be considered, in adjusting compensation, as part of his living demands. Beneficial, educational, and thrift plans should be promoted in these relations by corporations and participated in by individual members.

Training and Development

Systematic training is essential in any situation to provide discipline for the performance which is required and may be followed according to one's own plans or under counsel and guidance of others, according to the nature of the performance requirements of the work in view and one's endowments and previous experience. This course of training is not essentially apart from or discontinuous with the occupation as a whole, but continuous with it throughout life as one and the same course of procedure, the future being built upon the experience of the past, planned and developed as ingen-

uity and environmental circumstances offer possibilities. We cannot see clearly ahead but we can lay out a general course to follow which leads to opportunities and establish an objective; then when this is attained, we can establish another, and so on, as ways open up. We can control the application and development of our endowed faculties but we have little or no control over circumstances apart from us and therefore must seek environmental conditions which are opportune to our adaptations for performance. Intelligence makes the discovery of opportunities possible and our ingenuity is constantly being taxed to find the ways and means for accomplishment but opportune conditions must exist or nothing can be accomplished by any kind of performance.

We attain development by thought control. By this, states of mind and mental traits may be greatly modified—"timidity to strength, cowardice to bravery, stress and anguish to peace and poise," Frank Crane. Personal characteristics are derived paternally and are either developed or inhibited under environmental influences as we advance in life, that is, we have an organization with inherent tendencies to expression but adaptable to extrinsic influences. Our acts are greatly

restricted in some respects and enforced in others as we knock about in our environment and "muddle through," making mistakes and perfecting our steps along a course of continuous change.

We can apply our intelligence to the ordering of this process of perfecting our steps, much to our advantage, by observing essential conditions to be met and consciously practicing the acts called for until they become fixed habits in part with our reflex nature. This is self-training.

In this we may single out essential points for mental discipline and practice upon these as essential in self training, together with those for experience of a technical character. In these applications certain facts and principles have been clearly recognized as follows:—(see "Psychology in Daily Life," Seashore, Appletons').

IMPRESSIONS

1. Impressions are retained when we attend to their objects with confidence and trust in memory, especially of the first impression.

2. Visual and serviceable ideas require clear observation of essential elements and their integration in large units—Analyses and Syntheses.

3. Mental effort can be sustained only during

comparatively short periods (two hours or there about), therefor economy requires that concentration of attention should follow periods of relaxation.

RECOLLECTION

1. Recognition of relationships and associations is essential to associated memory and the flow of ideas.

2. Mental impressions are utilized by being recalled and persistent effort to recall and its repetition develop its efficiency.

3. Ideas are serviceable only when their recall is exact and the impression kept clear of unrelated elements.

4. Cultivation of realistic imagery facilitates recognition.

5. Expression of recognition develops its efficiency.

SUMMARY OF ESSENTIALS IN TRAINING

From the forgoing statements of principle we may conclude that the elements of training may be summarized in the following phases:—

1. Development of habits, of keen sense perception and discrimination—capacity for observation and inductive thinking.

2. Development of conceptions of systems of knowledge—capacity for deductive thinking.
3. Practice in essentials until action becomes easy and automatic.

Habits of Keen Sense Perception and Discrimination

Inquiry and concentration of attention upon the thing at hand at the moment are essential to keen perception.

Attention to comparison of impressions is essential to discrimination, intelligent action, and constructive imagination.

Intelligence, and rational action are developed in proportion to habits of perception, discrimination, and vivid recollection.

Training as to these habits is the most important phase in education because vital information and performance will be achieved in consequence.

"The key to the training of the senses is the habit of directing attention in efficient, economic, and restful waves," Seashore. The habit of trusting the senses, especially the first impression, is most important in training. Lack of concentration gives dull sense perception and concentration of attention is inhibited by aimless ineffective strain. Growth occurs only by self-expression in

the use of one's own resources and any system to promote this must allow individual freedom for initiative. Lock step systems, which are common, restrict rather than promote this freedom for self-expression. The individual should be guided in work which he is able to undertake according to his resources. He should be advanced as he is prepared to undertake new achievements, and should suffer the natural consequences of his own mistakes. Dealing and association with others should be an important part of his activities because of the importance in environment of elements involving other persons and the necessity of personal propaganda for his own progress.

Conceptions of Systems of Knowledge

Most knowledge cannot be acquired by one's own investigations. Life is too short for the individual to rediscover known facts. We must begin where our ancestors left off, making use of the heritage which we have received from them. We must therefore acquire a fund of the knowledge of our times as a working basis and this must be organized in order to be of value in deductive thinking. In acquiring this knowledge the habits of keen sense perception and discrimination should

be employed in order that the different phases in training may be taken up together.

Practice in Essentials

Essential acts in performance must be repeated until they become reflexive in order to acquire fixed graceful habits and economic action in any field of endeavor and in general association.

JUDGMENT AND DIRECTION OF THE SELF AND
OTHERS IN VOCATIONAL RELATIONS BROADLY

Personal judgment and direction broadly, requires placement of the individual in an occupation upon the same principles of selection that apply to the placement of workers in positions in a corporate organization, namely, examining the individual for adaptations to the items of required performance, but the examination of the individual should be made directly from the "Check List" of the Key, preceding, in order to obtain a comprehensive characterization of performance to which the individual may be adapted (see Form 12). This should then be graded as to intelligence status by means of the "Outline of Intelligent Performance" of the Key and possible occupations should be considered according to the

same procedure. By comparisons, a rational choice may then be made.

No one else knows what a person does and likes better than himself so that he, if he will be strictly honest with himself, can be his own best judge and he must exercise this function wisely if he is to be his own manager and direct his activities successfully. There is no specific piece of work for which a person is predestined absolutely. Adaptations are relative and, within a general field, an individual may apply himself to any one of a variety of activities equally well because many items in the performance of an occupation are not technical, though essential to technique. Occupational performance will be much more efficient however, when selected in the field of ones natural interests than when selected in another field, because impressions within this field are easily grasped, retained, and utilized, as much of the performance will consist in spontaneous expression for the pleasure of expression alone, that is, work and play in such a field are strongly correlated and free self expression is the strongest of influences toward mental development. What we need to remember under such conditions are the things in which we are naturally interested and to

which we give attention spontaneously. Therefore, discovery of one's likes and dislikes reveals much as to his personal adaptations for different types of occupational performance and should be included in systematic procedure for discovery of his aptitudes.

Judgment of others in their occupations may be made fairly by using the "Key to Analysis and Classification of Performance in Vocational Relations" if we have been able to observe the persons in action or collect reliable data of their action, and judgment as to strength or weakness in particular features of their performance may be of great value in dealing, or in rating or directing their activities.

Personal Propaganda

The environment in which we live is made up very extensively of elements involving other persons which require dealing and association. In these respects, not only ability to perform service is necessary but propaganda for patronage as well, executed either by ourselves or by others, consciously or unconsciously. This is true because patronage can be extended only according to the knowledge and belief which others acquire

about us, justly or unjustly. We must therefore take care that our performance is pleasing and strikingly suggestive of personal power and ability. There is a medium and admirable course which we can easily choose between the two extremes of indifference and false suggestion, either of which may fail to inspire the respect and confidence of others because the one has never aroused their interest and the other has fooled them too often. In these relations the following facts are clearly established:—

(1) We are patronized according as we are able to live up to and build upon the first impression which we make upon other people.

(2) The impressions which we make upon other people are chiefly by unconscious suggestion through all of our channels of expression.

Suggestion may be consciously directed and therefore included in training with appreciation that—

“Positive suggestion builds up and

Negative suggestion breaks down;

Indifference, hesitation, and argument act negatively.”—Allen, “Personal Efficiency and Selling,” LaSalle Extension University.

Rational Code of Progress

No absolute rules can be given for progress. In one instance a person progresses while staying in one organization all his life. In another instance progress is made by changing to a new environment and doing it repeatedly. The conditions which exist in any case are individual and cannot be generalized. A certain course of action in one instance will give desired results but in another instance conditions render it entirely fruitless. Therefore, the rules which follow can be regarded only as guides to the formation of habits desirable according to general principles.

RULES

(1) Study the nature of performance and organization in performance in vocational relations.

(2) Judge yourself, according to the outlines suggested in the "Key to Analysis and Classification of Performance in Vocational Relations."

Select an occupation accordingly and master it broadly and specifically.

List items in performance to be developed by training, as you progress, and keep a summary of items of analysis and of training for reference, on a blank, as an "Analysis Record" (see Fig. 17).

"Being expert in one thing carries with it power over other situations, and gives a station, social ranking, and confidence in self, spreading to other activities, so that one may live at the level of his highest achievement."—Seashore.

(3) Follow up your progress and anticipate the future referring to the Analysis Record:

A. Credit yourself fairly with success and recall the steps in your achievements—

Keep a Journal and Graphic Records of events to date; tabulate experience and advances by years (see Figures 17, 18, 19, 20, 21, 22).

B. Look forward to the events which you can expect—provide for financial contingencies by insurance and accumulation of invested capital.

Keep a file of notes and memoranda for work ahead, noting objectives also in the Graphic Records for comparison with actual accomplishments as recorded.

C. Practice daily in the items of training and play in the activities in which you can exercise expression spontaneously.

(4) Standardize, schedule, and dispatch your items, concentrating upon the work at hand and doing everything as well as it can be done, making as good a personal impression as possible upon

all others, and let events take their course until it is certain that no further progress can be made.

(5) If then progress has not been satisfactory from a reasonable viewpoint, seek a location in a different environment, but 'do not "detour" until the road is blocked and you have covered the last fifty feet ahead. When you do come to a block do not be afraid to turn for there is always a way around.' Do not turn back, you cannot; the past cannot be recalled. Eagerness to work, applied with ingenuity, will find opportunity with compensation in the long run.

(6) Take your chances fairly; some things will work out in your favor if you persistently try out possibilities.

(7) Have the moral courage and self-reliance to make decisions and stand your ground fighting your own battles.

Your position is stronger if you are decisive, although not always correct, than if you are indecisive and uncertain. But when you make a mistake have the moral courage to acknowledge it honorably and honestly.

(8) Work primarily for what you can do and you will have the potentialities for compensation. Present these potentialities strikingly and sustain

the interest of others in them through suggestion, and compensation will follow.

(9) Bear in mind that efficiency in any organization would be very low if all of the incumbents of positions should follow beaten paths laid out for them. It is frequently on account of the initiative of individuals in minor positions, often against the opposition of their superiors and under hazard to themselves, that advances are made in the direction of better organization and increased efficiency.

(10) Bear in mind also that "In a given germ cell there is the potency of any kind of organism that could develop from that cell under any kind of conditions. The potencies of development are much greater than the actualities. Anything which could possibly appear in the course of development is potential in heredity and under given conditions of environment is predetermined. Since the environment cannot be all things at once, many hereditary possibilities must remain latent or undeveloped. Consequently the results of development are not determined by heredity alone, but also by extrinsic causes. Things cannot be predetermined in heredity which are not also predetermined in environment. Of all animals, man

has the most extensive and the most varied environment and its effect upon his personality is correspondingly great." E. G. Conklin, "Hereditary and Environment."

Therefore, in training for the performance in view, you must develop qualities not called forth by past experiences and your capabilities are always greater than the past has revealed. This applies all through life and you should consequently seek and develop relevant performance.

Form 12

Figure 17

ANALYSIS RECORD

(Specimen Record)

Performance Revealed in Vocational Relations Broadly.

(Items checked once, twice, or three times according to aptitudes).

Physical—

✓✓✓ General application with good health; application with normal endurance and the strength of a slight physique.

Mental—

(Perception)

Accurate observation—

✓✓ (a) Attention to objects of impression with concentration and with trust in and with intention to recall their impression.

✓✓ (b) Quick perception of essential elements and their integration.

(Memory)

✓✓ Recognition of associations, real or accidental, essential to the memory of ideas.

(Discrimination)

✓✓✓ Judgment of qualities by comparison with established standards.

✓✓✓ Analyses and classifications by established procedure.

(Response to Dictates)

✓✓ Initiation of action.

✓✓✓ Maintenance of established standards.

✓✓ Resourceful application of courses of action.

(Planning)

✓✓✓ Constructive imagination and development of new courses of action.

✓✓✓ Establishing standards.

(Adherence to Truth and Trust)

✓✓✓ Tenacious adherence to fact.

✓✓✓ Custody of property and information in trust.

(Dealing, Association, and Expression as to Kinds of Thought and Action)

✓✓✓ Dealing with fairness.

✓✓ Promptly making and holding to decisions with self reliance and courage.

✓✓ Spontaneous expression of self reliance and ability to carry out a project, sufficient to inspire the respect, trust, and confidence of others and their subordination to leadership.

✓✓ Delegating performance.

✓✓✓ Organizing division of labor.

✓✓ Gauging correctly the ability of others.

✓✓✓ Gauging correctly the effect of instruction of others and adapting it.

✓✓ Invention—combination of structural elements for advantage in performance.

✓✓✓ Accepting circumstances as a matter of course without generalizing as conspiringly antagonistic.

✓✓ Judging human temperament.

✓✓✓ Association with poise and good address.

✓✓✓ Tactful association with others.

✓✓✓ Spontaneous expression of simple tastes and cleanliness.

✓✓ Spontaneous expression of desire to serve rather than to be served.

✓✓✓ Spontaneous expression of humility.

✓✓ Spontaneous expression of liking for intellectual pleasures.

✓✓✓ Spontaneous expression in thought in natural sciences generally—biological and social sciences particularly—as to application; in art—photography particularly; and in social development—teaching and industrial relations.

✓✓✓ Spontaneous expression toward the following conditions of living environment: Home life, rural life, and nature, family responsibilities, social activities.

Kinds of Occupations Pertinent

Medical—general practice.

Engineering—utilizing natural science in industrial production; personnel phases in industrial engineering.

Teaching—in the natural science field.

Grades of Service Attainable

Departmental and Associate Management—

Executive or Staff service.

Items to be Especially Developed by Training

Non-technical—

Attention to objects with concentration and with trust in and in tention to recall their impression.

Quick perception of essential elements and their integration—original analyses and syntheses and organization of ideas.

Standardizing, scheduling, dispatching.

Extemporaneous expression of formulated ideas.

Inhibition of subjective illusions, fear, etc., and promptly making and holding to decisions with self reliance and courage.

Intuitive action to command and sustain favorable attention.

Technical—

SUMMARY ANALYSIS ANNUAL EXPENDITURES.									
Year	Current Expense		Insurance		Education		Tot. Expense	Endowment	Tot. Income
19	Dwelling	Other	Life	Other	Fees	Other			
18	318 00	14 93 60	59 40	10 00		15 00	18 96 00	2 04 00	21 00 00
19	345 00	17 49 60	59 40	10 00		32 00	21 96 00	2 04 00	24 00 00
20									
21									
22									
23									
24									
25									
26									

FIGURE 18

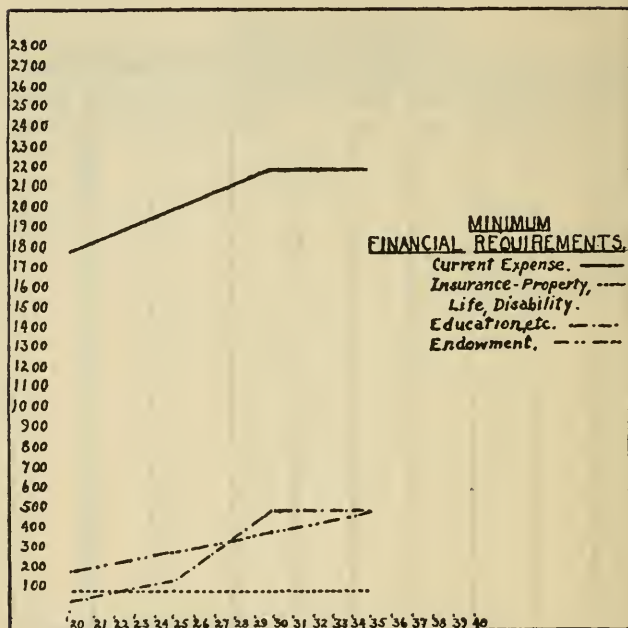


FIGURE 19

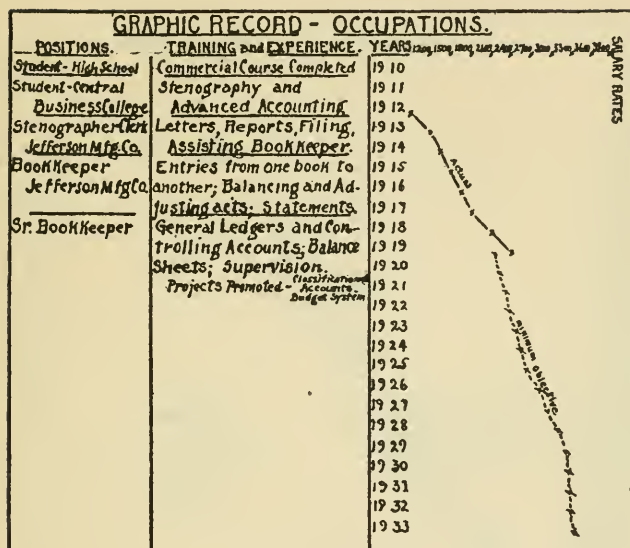


FIGURE 20

Minimum Objective based upon Minimum Financial Requirements of Figure 19.

NOTE—In applying for a position a Graphic Record of Occupations carefully made in detail, if added to a letter, will contribute much to its selling qualities.

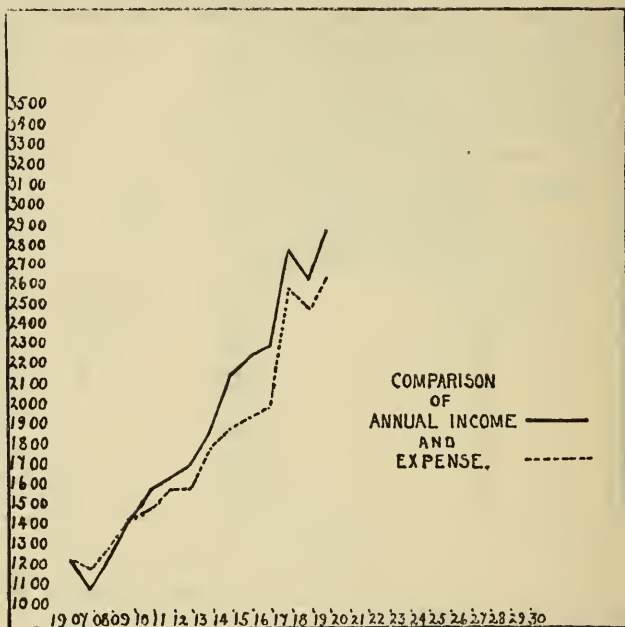


FIGURE 21

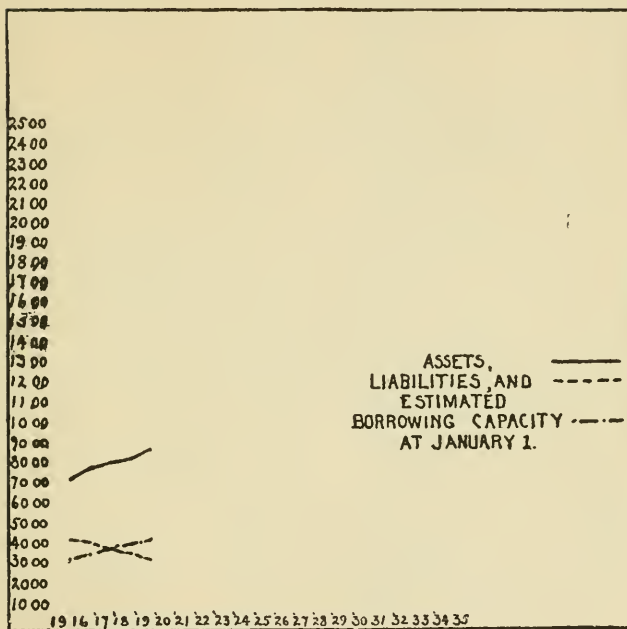


FIGURE 22

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